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# Intelligence and defense spending: a cross-country evidence

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## Abstract

This paper investigates the association between intelligence and military expenditure, across 159 nations during the 1990-2013 period. The econometric results we provide are surprising. On one hand, we fail to confirm that intelligence has monotonic effect on military spending. However, the results also suggest a novel type of intelligence-military spending nexus. In particular, the regression estimates show that there is inverted U-shaped relationship between IQ and military expenditure. From a policy perspective these findings suggest that cognitive development that increases military expenditures is sustainable so long as defense sector has positive spillovers on economic and social well-being.

**Keywords:** military, expenditure, intelligence, cross-country, IQ

## 1. Introduction

Over the past decade, growing attention has been devoted to investigate the reasons for, and economic consequences of, intelligence<sup>1</sup>. Related literature can be divided into two major lines. The first group of studies investigates the antecedents of intelligence (e.g. Kanazawa, 2012). For example, empirical studies suggest that average annual temperature (Vanhanen, 2009), latitude (Templer, 2008), and historical prevalence of infectious diseases (Epigg et al., 2010) are causal to intelligence.

Another line of studies explores the consequences of intelligence. Although much work has been done on the relationship between intelligence and economic outcomes (Weede & Kampf, 2002; Daniele, 2013; Burhan et al., 2014; Salahodjaev 2015a, Salahodjaev, 2015b), we are not aware of any empirical evidence that estimates the effect of intelligence on military expenditure. That is the aim of this study.

Military spending has important implications for public. In particularly, excess spending on the defense sector reduces private investments, present consumption and inhibits long run economic growth. Hewitt (1992, p. 107) comments that ‘military expenditure is an inefficient means of promoting economic growth compared, for instance, to private investment expenditure or government expenditure on public infrastructure and human capital’. Therefore, understanding the determinants of military spending has been an important object of research in empirical literature, especially over the last decade

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<sup>1</sup> See e.g. Lynn & Vanhanen (2012a) for an excellent review

Several arguments suggest negative link between intelligence and military expenditure. First, while some authors conjecture that spending on the military has positive short-run effects (e.g. Wing, 1991; Lin et al., 2015), there is abundant evidence that military expenditure deteriorating has long-run implications. For example, Findlay & Parker (1992) show that there is positive link between military spending and interest rates in the United States.

Also, Dunne et al. (2004), using data on 11 small industrializing countries for the period 1960-2000, find that military burden does have significant effect on the size of external debt relative to GDP. In this line, military expenditure increases inflation (Heo, 1998; Tzeng et al., 2008), unemployment rates (Dunne and Smith, 1990), reduces available resources for productive activities, such as investment in human skills and health care, and may inhibit long run economic growth (Dunne, 2012). Consequently, we expect that there is less military spending in high-IQ nations because intelligent individuals have longer time preferences (Jones & Podemska, 2010) and 'make choices that focus on generating long-run rather than short-run gains' (Squalli, 2014 p. 34). For example, empirical literature reports that intelligence is negatively associated with deforestation rates (Salahodjaev, 2016).

Second, because government is the exclusive provider of defense services, military spending creates room for corruption. Restricted competition among providers may foster rent seeking and can increase the fraction of bureaucrats that find it appealing to further increase arms spending and accept bribes in exchange for arms contracts. On the other hand, intelligence is negatively related to corruption (Potrafke, 2012) and shadow economy (Salahodjaev, 2015a). Nie et al. (1996) offers an explanation of this relationship. Because educated economic agents have higher returns from political participation, more likely to vote in elections and engage in political campaigns, intelligent citizens limit government (political participation and political checks and balances), and increase public accountability. In particular, Berinsky & Lenz (2011) investigate the causality between education and political participation using Current Population Survey. The authors find positive link between education and the propensity to vote. More recently, Solon (2014) re-examines the link between intelligence as a proxy for educational and political experience. The findings show that higher intelligence fosters liberalism and prosociality. Similarly, intelligence moderates the effect of democracy on economic growth in cross-country growth regressions (Salahodjaev, 2015c).

On the other hand, intelligence may also have a positive effect on military expenditure. While theory conjectures that cognitive skills predict the quality of institutions (Kanayama, 2014), there is evidence that civil liberties and democratic institutions do not insure against onset of conflicts (Dudley & Montmarquette, 1981; Harrison & Wolf, 2012). Moreover, many high-IQ nations that are limited democracies more likely to be vulnerable to military conflicts (Baliga et al., 2011). Albaladejo et al. (2012), using a dataset containing information on 157 countries, find support for guns and butter nexus. The authors report that presidential democratic regimes have higher shares of military expenditure in GDP relative to parliamentary systems.

Another reason to anticipate positive link between intelligence and military expenditure is risk aversion. Empirical evidence supplies abundant evidence that higher cognitive abilities predict risk aversion (Benjamin et al., 2013; Frederick, 2006) and greater patience (Shamosh & Gray, 2008). For example, using web-based experiment of 1250 individuals, Oechssler et al. (2009) find a positive correlation between Cognitive Reflection Test scores and sure payments: in other words intelligence increases risk aversion. If national military expenditure measures perception of possible risks and threats (Collier, 2006), we might therefore anticipate that nation's cognitive abilities will have positive effect on the share of defense spending in GDP.

Further, educated individual tends to maximize his/her social welfare function (Frey & Stutzer, 2000). In this vein, we expect that more intelligent societies, driven by pro-social motivation (Millet & Dewitte, 2007), may spend more on military programs ('peace dividend' hypothesis) because defense is a genuine public good. In a similar line, Collier & Hoeffler (2007) show that GDP per person has a positive and statistically significant effect on military expenditure.

Therefore, this paper explores the link between intelligence and spending on the military, using cross-section of countries. To our knowledge, this is the first study to empirically relating military spending with intelligence of nation. The econometric results we provide are surprising. On one hand, we fail to confirm that intelligence has monotonic effect on military spending. However, the results also suggest a novel type of intelligence-military spending nexus. In particular, the regression estimates show that there is inverted U-shaped relationship between IQ and military expenditure. This indicates that during initial stage of cognitive development, some form of military spending is unavoidable, but increasing intelligence would eventually create incentives to reduce military expenditures. Consequently, one of the policy suggestions of these findings is that cognitive development that increases military expenditures is sustainable so long as defense sector has positive spillovers on economic and social well-being (e.g. Kentor & Kick, 2008).

This paper is organized as follows. Section 2 presents data and methodology. Section 3 discusses the main results and Section 4 provides robustness tests. Finally, Section 5 concludes the paper.

## 2. Data and methods

In the subsequent sections, we proceed with cross-country regression analysis of military expenditure rates across 159 nations during the 1990-2013 period. Table 1A lists all the countries included in the dataset. Although controlling for time effects would be ideal here, the presence of a variable that is constant over such periods of time, namely intelligence, may create multicollinearity issues, especially in the fixed effects setting. Therefore, we rely on conventional ordinary least squares (OLS) regressions.

Our main variable of interest is a measure of intelligence. Although, a universal measure of intelligence is lacking in the literature, various aspects of intelligence are often suggested in the different interpretations depending on the aim of study. However, on the macroeconomic level intelligence is proxied by national IQ scores. In line with extant studies, our preferred proxy for intelligence is from Lynn & Vanhanen (2012b). In this dataset national IQ scores proxy overall measure of intelligence in country (see e.g. Salahodjaev, 2015d; Belasen & Hafer, 2013).

In this paper we use two independent proxies for military expenditure: military expenditure as a percentage of GDP (*military*) and arms imports relative to the size of economy (GDP) (*import*). We take the natural logarithm of these variables in the regressions.

*Military* is the most commonly used measure of defense spending in extant studies because, by definition, it captures military spending. Military expenditure data include all current and capital spending on: (a) the armed forces, including peacekeeping forces; (b) defense ministries and other government agencies involved in military projects; (c) paramilitary forces; and (d) military space activities. Such expenditures should include: (a) military and civil personnel, including retirement pensions of military personnel and social services for personnel; (b) operations and maintenance; (c) procurement; (d) military research and development; and (e) military aid (in the military expenditure of the donor country). The data is from Stockholm International Peace Research Institute (SIPRI).

In order to increase confidence of our findings, we also use imports of arms relative to GDP. This variable captures the supply of military weapons through sales, aid, gifts, and those made through manufacturing licenses. Data cover major conventional weapons such as aircraft, armored vehicles, artillery, radar systems, missiles, and ships designed for military use. The data is from World Development Indicators.

As control variables, we include FDI, Democratic index (*democracy*), government expenditure relative to GDP (*gcons*), and GDP per capita. Table 1 presents descriptive statistics.

Table 1  
Descriptive statistics

Variable	Description	Mean (Std. dev.)
Military (log)	Military expenditure (% of GDP) Source: SIPRI	0.6355 (0.7859)
Import (log)	Logged arms imports (% of GDP) Source: SIPRI	-0.9746 (1.5063)
IQ	National IQ Source: Lynn & Vanhanen (2012)	84.1026 (10.8475)
FDI	Foreign direct investment, net inflows (% of GDP) Source: World Bank	36.9799 (61.3759)
Y/L(log)	GDP per capita Source: World Bank	7.9530 (1.6190)
Democracy	Average of political rights and civil liberty scores Source: Freedom House	4.1257 (2.0920)
Gcons (log)	General government consumption expenditure (% of GDP) Source: World Bank	16.8148 (8.8748)

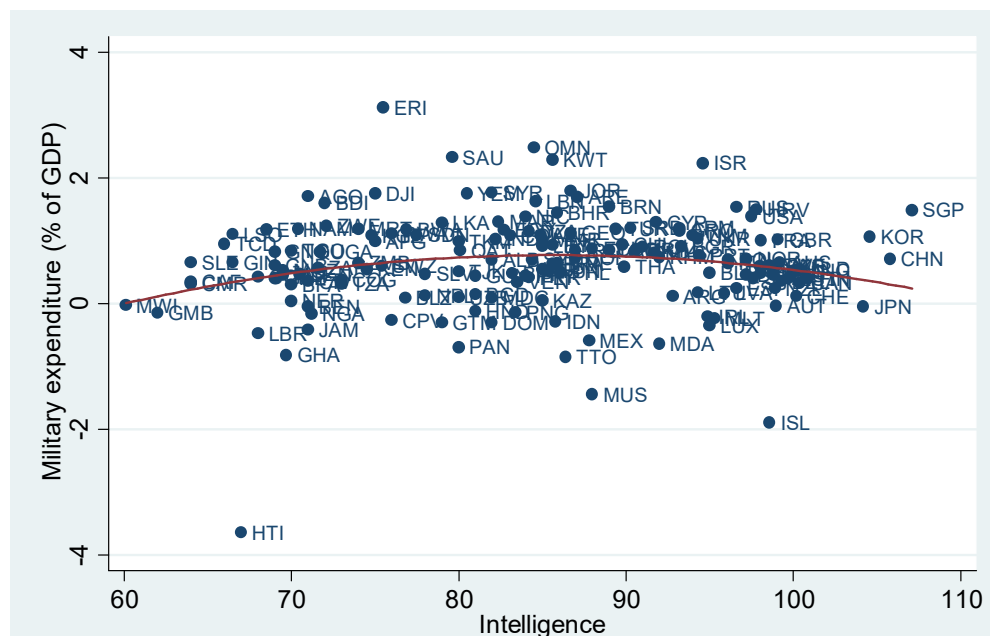


Figure I Scatter plot and curve estimation of *military* against level of intelligence

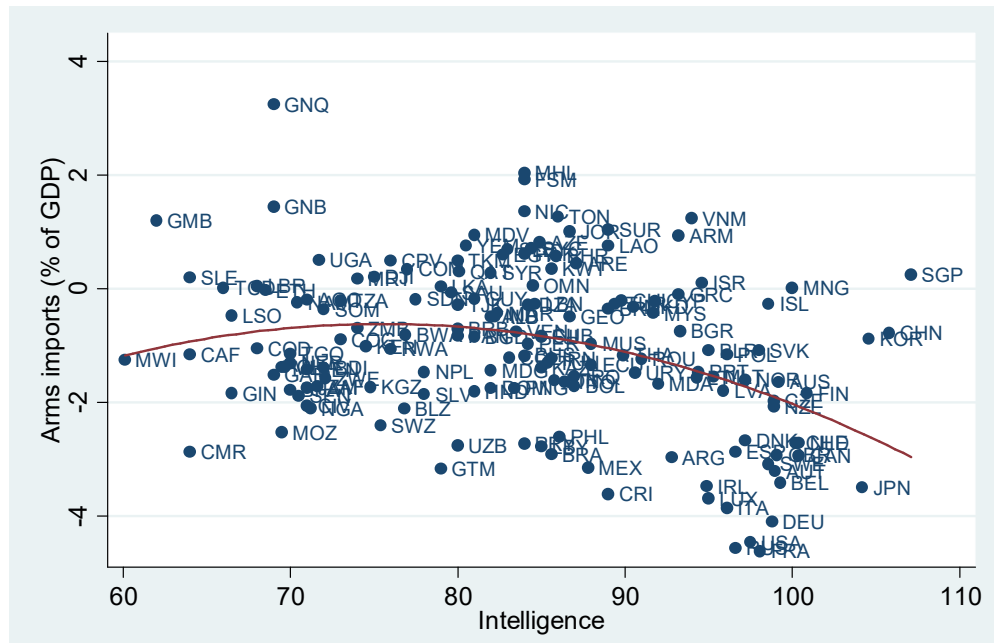


Figure II Scatter plot and curve estimation of *import* against level of intelligence

Formally, we estimate the following linear regression:

$$Y_i = \alpha_0 + \alpha_1 IQ_i + \alpha_2 IQ_i^2 + X_i \beta + \varepsilon_i \quad (1)$$

where Y is the dependent variable, IQ is measure for intelligence and X is the set of control variables. Since preliminary results suggest that intelligence has inverted U-shaped effect on military spending we add its squared term in all specifications. We introduce control variables gradually in the empirical analysis.

Note that heteroskedasticity is a common issue in cross-country linear regressions. To address this problem we estimate heteroskedasticity adjusted robust standard errors in STATA 13.

### 3. Results

Figures I and II that plot the level of intelligence (using national IQs) against dependent variables strongly suggest non-monotonic effect of intelligence on military expenditure. The curve estimations in Figures I and II take the pattern of a reversed-U-shaped.

Econometric results are presented in Tables 2 and 3. The dependent variable in Table 2 is logged military spending to GDP (*military*). Models 1 and 2 are estimated excluding control variables. The bivariate regression in model 1 fails to find statistically significant linear effect of intelligence on *military*. In particular the Ramsey RESET test applied here suggests that squared term of intelligence should be added in the regression ( $p < .05$ ). Including squared IQ substantially improves the model. First, Ramsey test now rejects regression misspecification ( $p = 0.75$ ). Intelligence and its squared term are now significant at the 5% level. Moreover, the results confirm the existence of inverted U shaped link between intelligence and *military*. The turning point of the curve is around 87.5 points, which equals to national IQ scores of Brazil, but less than the IQ scores of Mexico. We include GDP per capita and democratic index in model 3. As expected a positive coefficient for GDP per capita is produced; likewise, a negative and significant, at the 1% level, estimate for democratic index is obtained, and the inverted U-shaped link between IQ and *military* is replicated. The turning point now is around 89.5 points.

While *FDI* has a negative connection to *military*, the non-linear effect of intelligence on *military* remains intact (in model 4). Finally, we control for government consumption relative to GDP in model 5. The full model explains 28.2 percent of cross-country differences in military spending. The inverted U-shaped effect of intelligence remains intact, and the turning point is now around 90 points. Turning to control variables, when government consumption rises by 10 percents, average long run military expenditure increases by 5 percents. In line with related studies, the estimates show that nations with higher level of liberties are associated with lower military spending (e.g. Dunne & Freeman, 2003).

**Table 2**  
Intelligence and military expenditure: OLS regression

	(1)	(2)	(3)	(4)	(5)
IQ	0.0057 (0.0058)	0.1925** (0.0852)	0.1433* (0.0726)	0.1374* (0.0746)	0.1440* (0.0789)
IQ <sup>2</sup>		-0.0011** (0.0005)	-0.0008* (0.0004)	-0.0007* (0.0004)	-0.0008* (0.0005)
Y/L			0.1531*** (0.0460)	0.1583*** (0.0451)	0.0917* (0.0505)
Democracy			-0.2193*** (0.0394)	-0.2221*** (0.0391)	-0.2152*** (0.0385)
FDI				-0.0131** (0.0065)	-0.0133** (0.0062)
Gcons					0.5132*** (0.1832)
ERI	2.5558*** (0.0875)	2.4978*** (0.0849)	2.6391*** (0.1052)	2.6481*** (0.1038)	2.0447*** (0.2256)
Constant	0.1342 (0.5040)	-7.5572** (3.5869)	-7.8941** (3.1769)	-7.6497** (3.2524)	-8.8269** (3.5536)
<i>N</i>	159	159	156	156	156
adj. <i>R</i> <sup>2</sup>	0.0594	0.0848	0.2372	0.2416	0.2822
Turning point	-	87.50	89.56	98.14	90.0

Notes: the dependent variable is *military*. Robust standard errors in parentheses. \**p*<0.1, \*\**p*<0.05, \*\*\**p*<0.01 (Figure 1 illustrates why we included Eritrea (ERI))

In Table 3 we consider a different measure of military expenditure, namely logged armed imports relative to GDP. Model 1 shows that intelligence is negative and statistically significant at the 1% level. In short, a one standard deviation increase in national IQ is associated with 0.38 percent decrease in long run military imports as a share of GDP. However, as in Table 2, Ramsey test fails to reject that model has no omitted variables (*p*=.0001). Consequently, adding squared IQ in model 2 supports statistically significant inverted U-shaped link between *IQ* and *import*. The estimated turning point for IQ is at 77.26 points.

Including control variables in models 3 to 6 yields statistically significant coefficients for *IQ* and *IQ*<sup>2</sup>. After controlling for suggested antecedents of military expenditures (model 6) we find that the turning point is 84.29 which is also equal to the national IQ score for Brazil. Turning to control variables we find that *democracy* has negative effect on *import*. Interestingly, coefficient on *gcons* and *FDI* is positive but not significant, suggesting that government consumption and foreign direct investment has no discernible effect on the arms transfers.

**Table 3**  
Intelligence and military expenditure: OLS regression

	(1)	(2)	(3)	(4)	(5)	(6)
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IQ	-0.0355*** (0.0101)	0.3863** (0.1696)	0.3853** (0.1593)	0.3079** (0.1537)	0.3162** (0.1537)	0.3203** (0.1585)
IQ2		-0.0025** (0.0010)	-0.0023** (0.0010)	-0.0018** (0.0009)	-0.0018** (0.0009)	-0.0019** (0.0009)
Y/L			-0.2612*** (0.0969)	-0.1311 (0.0865)	-0.1303 (0.0874)	-0.1605 (0.1008)
Democracy				-0.2577*** (0.0738)	-0.2637*** (0.0761)	-0.2601*** (0.0772)
FDI					0.0082 (0.0252)	0.0085 (0.0248)
Gcons						0.2590 (0.3234)
GNQ	3.7790*** (0.1625)	4.0473*** (0.1801)	3.9741*** (0.1855)	3.6105*** (0.1998)	3.3989*** (0.6393)	3.4643*** (0.6516)
Constant	1.9104** (0.8310)	-15.4821** (6.9218)	-14.5907** (6.5634)	-14.0642** (6.5569)	-14.4776** (6.5959)	-15.1252** (6.9970)
<i>N</i>	159	159	156	154	153	153
adj. <i>R</i> <sup>2</sup>	0.1188	0.1626	0.1988	0.2771	0.2745	0.2732
Turning point	-	77.26	83.76	85.52	87.83	84.29

Notes: the dependent variable is *import*. Robust standard errors in parentheses. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01.  
(Figure 2 illustrates why we included Equatorial Guinea (GNQ))

#### 4. Robustness tests

We perform several robustness checks. Hewitt (1992) argues that motives for military spending vary greatly among developing and developed nations. He concludes that the antecedents for military expenditure may have different impacts based on nation's distinctiveness. For example, Middle East countries tend to have higher levels of military expenditure. This implies that the effect of intelligence on defense spending is robustly heterogeneous. Ignoring, this may significantly distort the results. Further, presence of outlying countries may also lead to biased estimates of mean regressions. To address this issue we rely on quantile regression by Koenker (2005). This approach enables us to understand the drivers of military spending by analyzing different quantiles. The results for *military* and *import* are reported in Tables 4 and 5 respectively.

Table 4 shows that the U-shaped link between *IQ* and *military* is statistically significant in quantiles 0.4 to 0.8. The quantile regression suggests *IQ* is non-significant for countries with low spending on the military. Note that the turning points remain essentially similar, ranging from 86.10 to 88.16. The results suggest that even after accounting for multiple determinants of spending on the military and heterogeneity of nations, U-shaped link between *IQ* and *military* is relatively robust.

The effect of *FDI* on military expenditure increases for high military spending countries. As anticipated, government consumption is positive and statistically significant. For quantile 0.5, a 10percent increase in government consumption is associated with increase in military expenditure by 5.8percents. In contrast to OLS regression, *income* is positive and significant at the 10% level only in quantile 0.8.

**Table 4**  
Intelligence and military expenditure: quantile regression

	(1)	(2)	(3)	(4)	(5)
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	Q 0.2	Q 0.4	Q 0.5	Q 0.6	Q 0.8
IQ	0.0702 (0.0934)	0.1587* (0.0853)	0.1722** (0.0810)	0.2589*** (0.0686)	0.2103** (0.1036)
IQ2	-0.0003 (0.0006)	-0.0009* (0.0005)	-0.0010** (0.0005)	-0.0015*** (0.0004)	-0.0012* (0.0006)
Y/L	0.0806 (0.0644)	0.0610 (0.0645)	0.0779 (0.0616)	0.0376 (0.0534)	0.1333* (0.0679)
Democracy	-0.1538*** (0.0486)	-0.1775*** (0.0438)	-0.2100*** (0.0426)	-0.1965*** (0.0366)	-0.1981*** (0.0509)
FDI	-0.0100 (0.0089)	-0.0133* (0.0076)	-0.0145** (0.0072)	-0.0159** (0.0063)	-0.0181 (0.0115)
Gcons	0.4055** (0.1968)	0.4648** (0.1869)	0.5884*** (0.1799)	0.6920*** (0.1521)	0.5187** (0.2212)
Constant	-5.5896 (3.8549)	-8.7640** (3.5227)	-9.7362*** (3.3688)	-13.1561*** (2.8810)	-10.7478** (4.2553)
<i>N</i>	156	156	156	156	156
Turning point	n.s.	88.16	86.10	86.30	87.62

Notes: the dependent variable is *military*. Robust standard errors in parentheses. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01

Table 5 also reports the results for *import*. In contrast to the estimates in Table 4, intelligence is non-significantly linked to *import* for the last quantile. The turning point for the import ranges from 85.96 to 91.2. Further, the magnitude of the estimates for democracy decreases for high arms importing countries. Throughout the regression we fail to find statistical evidence for the impact of *income*.

**Table 5**  
Intelligence and military expenditure: quantile regression

	(1)	(2)	(3)	(4)	(5)
IQ	0.1824* (0.1071)	0.5332*** (0.1478)	0.5205** (0.2149)	0.4814*** (0.1498)	0.2060 (0.2064)
IQ2	-0.0010* (0.0006)	-0.0031*** (0.0009)	-0.0030** (0.0013)	-0.0028*** (0.0009)	-0.0013 (0.0012)
Y/L	-0.0677 (0.0876)	-0.0655 (0.1115)	-0.1164 (0.1594)	-0.0983 (0.1204)	-0.0079 (0.1534)
Democracy	-0.4350*** (0.0565)	-0.4020*** (0.0739)	-0.3023*** (0.1067)	-0.2769*** (0.0793)	-0.2516** (0.1211)
FDI	-0.0058 (0.0101)	0.0472** (0.0224)	0.0334 (0.0278)	0.0216 (0.0182)	0.0845*** (0.0259)
Gcons	0.5865* (0.2978)	0.4065 (0.3509)	0.4710 (0.4992)	0.5707 (0.3639)	-0.4000 (0.4955)
Constant	-12.6230*** (4.5215)	-26.5663*** (6.2206)	-24.7703*** (9.0411)	-22.8578*** (6.3827)	-8.4985 (9.0728)
<i>N</i>	153	153	153	153	153
Turning point	91.2	86.00	86.75	85.96	n.s.

Notes: the dependent variable is *import*. Robust standard errors in parentheses. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01

We also replicated equation (1) using alternative vector of control variables. In order to prevent for omitted variable bias we included average level of military expenditure in the geographic region (*region*). For example, Hewitt (1992) argues that excess military expenditure by one nation establish a negative externality to adjacent nations. We included dummy variables for *socialist* and *oil exporting* countries, to capture indirect effect of country specific

characteristics on military expenditure.

Finally, we control for the effect of demographic structure, measured by age dependency ratio, on demand for defense spending. The results are presented in Table 6. Controlling for alternative determinants of defense burden does not change the inference that intelligence has a non-linear influence on the military expenditure. The average level of military expenditure in the geographic region has significant, at the 1% level, impact on all measures of military expenditure. For example, its estimate is positive and significant at the 5% level for military spending relative to GDP. Demographic structure as approximated by age dependency ratio, has a positive, albeit non- effect on dependent variables.

**Table 6**  
Robustness test: alternative control variables

	(1)	(2)
IQ	0.3586** (0.1704)	0.1414* (0.0785)
IQ2	-0.0023** (0.0010)	-0.0007* (0.0004)
Neighbor	1.2403*** (0.2326)	0.9611*** (0.1717)
Age	0.0004 (0.0075)	0.0084 (0.0054)
Oil exporting	-0.5558** (0.2451)	0.1854 (0.1485)
Socialist	0.2991 (0.2641)	0.0308 (0.1125)
Constant	-15.1498** (7.3529)	-7.0853* (3.6746)
<i>N</i>	157	157
adj. <i>R</i> <sup>2</sup>	0.2247	0.2335

Notes: Robust standard errors in parentheses. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01

## 5. Conclusion

Several studies have tested the effect of intelligence on socio-economic outcomes, but the link between IQ and military expenditure has not been investigated. This paper investigates the association between intelligence and defense burden, and documents robust U-shaped empirical regularity between them. In addition to cognitive skills political regimes and government consumption has also statistically significant effect on military expenditure.

In particular, the results from quantile regressions show that our findings are substantially consistent, indicating that there are statistically significant and quantitatively important link between intelligence and military spending, both at mean level and across heterogeneous sample of countries. The increase in intelligence is crucial for reduction in spending on the military in the countries with the IQ scores above 86-88 points. Contrary cognitive development below the turning may be associated with increase in defense spending for low IQ nations.

What drives the allegedly inverted U-shaped curve, and the moderate regularity of its statistical shape in developed and developing nations, is unknown. Provisionally:

- We conjecture that societies tend to demand greater security at the early stages of development, and reaching approximately 85 IQ points tend to revise their demand for

defense spending. It seems that psychological factors play role in transforming the anticipated linear link between intelligence and defense burden to non-monotonic pattern.

- Alternatively – though it may be possibly a small part of the evidence - is that a particular military/peace treaty agreement is likely to be signed preferentially in higher IQ nations first with a momentary lag prior it is signed in the majority of less cognitively developed nations.

It is possible that the avenue for future research is to investigate the causes of the inverted U-shaped pattern.

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## APPENDIX

Table A1  
List of countries

Albania	Dominican Rep.	Lao PDR	Romania
Algeria	Ecuador	Latvia	Russian Federation
Angola	Egypt, Arab Rep.	Lebanon	Rwanda
Argentina	El Salvador	Lesotho	Saudi Arabia
Armenia	Equatorial Guinea	Liberia	Senegal
Australia	Eritrea	Libya	Serbia
Austria	Estonia	Lithuania	Seychelles
Azerbaijan	Ethiopia	Luxembourg	Sierra Leone
Bahrain	Fiji	Macedonia, FYR	Singapore
Bangladesh	Finland	Madagascar	Slovak Republic
Belarus	France	Malawi	Slovenia
Belgium	Gabon	Malaysia	South Africa
Belize	Gambia, The	Mali	Spain
Benin	Georgia	Malta	Sri Lanka
Bolivia	Germany	Mauritania	Sudan
Bosnia and Herzegovina	Ghana	Mauritius	Swaziland
Botswana	Greece	Mexico	Sweden
Brazil	Guatemala	Moldova	Switzerland
Brunei Darussalam	Guinea	Mongolia	Syrian Arab Republic
Bulgaria	Guinea-Bissau	Montenegro	Tajikistan
Burkina Faso	Guyana	Morocco	Tanzania
Burundi	Haiti	Mozambique	Thailand
Cambodia	Honduras	Namibia	Togo
Cameroon	Hungary	Nepal	Trinidad and Tobago
Canada	Iceland	Netherlands	Tunisia
Cape Verde	India	New Zealand	Turkey
Central African Republic	Indonesia	Nicaragua	Turkmenistan
Chad	Iran, Islamic Rep.	Niger	Uganda
Chile	Iraq	Nigeria	Ukraine
China	Ireland	Norway	United Arab Emirates
Colombia	Israel	Oman	United Kingdom
Congo, Dem. Rep.	Italy	Panama	United States
Congo, Rep.	Japan	Papua New Guinea	Uruguay
Cote d'Ivoire	Jordan	Paraguay	Uzbekistan
Croatia	Kazakhstan	Peru	Venezuela, RB
Cyprus	Kenya	Philippines	Vietnam
Czech Republic	Korea, Rep.	Poland	Yemen, Rep.
Denmark	Kuwait	Portugal	Zambia
Djibouti	Kyrgyz Republic	Qatar	Zimbabwe